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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/050,249

01/16/2002

Horst Greiner

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04/15/2005

PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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BRIARCLIFF MANOR, NY 10510

EXAMINER

LEE, Y MY QUACH

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/050,249

Applicant(s)

GREINER, HORST

Examiner

Y Quach Lee

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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***DETAILED ACTION******Response to Arguments***

1. Applicant's arguments filed January 5, 2005 with respect to claim 11 have been fully considered but they are not persuasive. Applicant argues that the feature of the light reflective surfaces provided only on an inner wall of the light reflective case do not surround the edges (plural) of the cavity (singular) 13 in Kawano and Applicant compares this feature with the exemplary embodiment 205 shown in drawing figure 2 of applicant's present application. It should be noted that the feature upon which applicant relies is not recited in the rejected claim. Claim 11 does not recite the edges of the cavity surrounded by a second reflecting layer but recite "the edges of the cavities" surrounded by a second reflecting layer. Therefore, each edge of each cavity (therefore the edges of the cavities) is surrounded by the reflective layer (17a) of Kawano. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Even if claim 11 recites the edges of each of the cavities surrounded by a second reflecting layer, the reflective layer (17a) of Kawano is still surrounding the edges of each of the cavities since "surround" is defined as "to extend around a margin". For instance, the edge of the cavity is the margin and because the reflective surface (17a) of Kawano extends around the cavities, the cavities are therefore surrounded by the reflective surface, and any features such as the edges that belong to the cavities or each of the cavities are also surrounded by the reflective surface. It should be noted that because a proper terminal disclaimer has not been filed at the present time, a provisional obvious type double patenting rejection of claims 1-3 and 5-20 has therefore not overcome and remains. This provisional obvious type double patenting rejection of these claims and the text of that rejection not included in this Office action can be found in a prior Office action of September 30, 2004. Applicant's arguments with respect to claims 1 to 5, 7, 11 and 12 in view of the references to Hardesty and Nagai have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 to 3, 5, 7, 8, 11, 12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horiuchi (prior art previously cited) in view of Kraines et al.

Horiuchi discloses a lighting device comprising an optical waveguide plate (14, 104, these are optical waveguide because it confines and guides the propagation of light, column 2, lines 55 to 57) into which a plurality of cavities (17, 107) is provided, each cavity accommodating a light source (15, 105), each cavity having an upper side facing a light emission surface and side walls (figures 1, 2 and 7), the side walls of the cavities extending substantially perpendicularly to the light emission surface, the upper sides of the cavities extending substantially parallel to the light emission surface, the cavities coated with a reflecting layer (16, 106) at their lower sides opposite to the upper sides with the reflecting layer extending over the side faces (18) and a lower side (opposite from the light emission surface) of the waveguide plate (figure 2), the reflecting layer at a distance from the waveguide plate which distance constitutes an air gap (the gap between the reflecting layer (16, 106) and the lower side of the waveguide plate (14, 104), figures 1 and 2), the edges of the cavities lying opposite the upper side surrounded by the reflecting layer (note that the edge of the cavity is the margin and because the reflecting layer extends around the cavities, the cavities are therefore surrounded by the reflecting layer, and any features such as the edges that belong to the cavities or each of the cavities are also surrounded by the reflecting layer), a liquid crystal display (11, 101) incorporating the lighting device, and a plurality of light extraction elements (102, protrusions and indentations, column 2, lines 17 to 22) disposed on the light emission surface. However, Horiuchi does not disclose that the light sources are of different colors, the upper side being coated with a first reflecting layer while the coupling of the light into the waveguide plate takes place through the side walls.

Kraines et al. teach a plurality of light sources of different colors (column 8, lines 10 to 13), and the upper side of each cavity (74) coated with a first reflecting layer (76, column 4, lines 56 to 57) so that light coupling into the waveguide plate takes place through the side walls (column 4, lines 59 to 60 and column 5, lines 8 to 9).

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It would have been obvious to one skilled in the art to provide the light sources of Horiuchi with different colors, as shown by Kraines et al., to produce color distribution of light across the waveguide plate. It would have also been obvious to one skilled in the art to coat the upper side of the each cavity of Horiuchi with a reflecting layer, as shown by Kraines et al., to not only couple the light into the waveguide plate through the side walls of the plate but to also reduce the appearance of the bright spots at the locations of the light sources.

4. Claims 1, 2, 5, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraines et al. in view of Horiuchi (prior art previously cited).

Kraines et al. disclose a lighting device comprising a light conducting plate (66) having a light emission surface (the surface between element 66 and element 76) and into which a plurality of cavities (74) is provided, a plurality of light sources of different colors (column 8, lines 11 to 13), each cavity accommodating a light source (70), each cavity having an upper side facing the light emission surface and side walls (figures 1 and 2), the upper side coated with a first reflecting layer (76) while the coupling of the light into the plate takes place through the side walls (column 4, lines 59 to 60 and column 5, lines 8 to 9), the side walls of the cavities extending substantially perpendicularly to the light emission surface (figure 2) and the upper sides of the cavities extending substantially parallel to the light emission surface (figure 2), the cavities provided in a lower side of the plate (the lower side adjacent to element 68), a liquid crystal display (52) incorporating the lighting device, a housing (44 and 92 held together by welding or fasteners or mechanical connections, column 6, lines 5 to 6), and the plate disposed within the housing. Note that since there are no partitions to block the different colors of the light sources, the colors of the light sources within the plate would obviously be mixing to output a mixed color light through the light emission surface. However, Kraines et al. do not disclose that the plate is an optical waveguide.

Horiuchi teaches that an acrylic light conducting plate (104, column 2, lines 32 to 33) having a light conductive medium for first enclosing the light emitted from the light source and then guiding the light to distant positions separated therefrom (column 2, lines 55 to 57), so that the light emitted from the light source is spread by the plate such that its brightness distribution

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is even (column 2, lines 58 to 62), which meets the characteristic and the limitation of “an optical waveguide”.

It would have been obvious to one skilled in the art to provide the acrylic plate of Kraines et al. with the light conductive medium, as shown by Horiuchi, so that the light emitted from the light source is enclosed by the plate and then being guided to distant positions separated therefrom so that the light emitted from the light source is spread by the plate such that its brightness is evenly distributed.

5. Claims 3, 7, 11, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraines et al. in view of Horiuchi (prior art previously cited), as applied to claims 1 and 13 above, and further in view of Kawano et al. (prior art previously cited).

Kraines et al. as modified by Horiuchi disclose the invention substantially as claimed with the exception of having the cavities coated with a second reflecting layer at their lower sides opposite to their upper sides and the reflecting layer extending over the side faces and a lower side of the plate with the edges of the cavities lying opposite the upper side of the cavities surrounded by the reflecting layer.

Kawano et al. teach the cavities (13) coated with a reflecting layer at their lower sides opposite to the upper sides and this reflecting layer extending over the side faces (11c) and a lower side (11b) of the plate for reflectively directing the light from light sources within the plate and out through the light emitting surface of the plate. Note that since the reflecting layer extending over the lower side of the plate, the edges of the cavities lying opposite the upper side of the cavities are surrounded by the reflecting layer.

It would have been obvious to one skilled in the art to provide the lower side of the cavities and the side faces as well as a lower side of the plate of Kraines et al. with a reflecting layer, as shown by Kawano et al., so that light can be reflected back to the plate for preventing light leakage.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horiuchi (prior art previously cited) in view of Kraines et al., as applied to claim 1 above, and further in view of Kawano et al. (prior art previously cited).

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Horiuchi as modified by Kraines et al. discloses the invention substantially as claimed with the exception of having the light sources comprised of a plurality of red, green, and blue light emitting diodes which are distributed such that no light sources of the same color lie in mutually adjoining cavities.

Kawano et al. teach a plurality of light emitting diodes comprised of a plurality of red, green, and blue light emitting diodes (column 12, lines 32 to 34) which are distributed such that no light sources of the same color lie in mutually adjoining cavities (figures 14 to 17, 19, 20 ..).

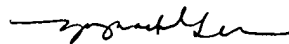
It would have been obvious to one skilled in the art to provide the light sources of Horiuchi with the light sources comprised of red green and blue light emitting diodes which are distributed such that no light sources of the same color lie in mutually adjoining cavities, as shown by Kawano et al., for providing a desired color of light at a uniform brightness throughout the area of the light emission surface.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y Quach Lee whose telephone number is 571-272-2373. The examiner can normally be reached on Tuesday and Thursday from 8:30 am to 4:30 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service whose telephone number is 571-272-2815.

Y. Q.  
March 17, 2005

  
Y Quach Lee  
Patent Examiner  
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